Name:

p1105: Factoring when $a = 1$ (v6)

Example: Factor $x^2 + 5x - 24$

Find two numbers whose product is -24 and whose sum is 5. Focus on finding factor pairs of -24. Eventually you consider 8 and -3 because $(8)(-3) = -24$. You verify this pair is correct because $(8) + (-3) = 5$. Thus, your answer:

$$(x + 8)(x - 3)$$

1. Factor $x^2 + 11x + 24$

   $(x + 8)(x + 3)$

2. Factor $x^2 - 5x - 24$

   $(x + 3)(x - 8)$

3. Factor $x^2 - 4$

   $(x + 2)(x - 2)$

4. Factor $x^2 - 5x + 6$

   $(x - 2)(x - 3)$

5. Factor $x^2 + 5x + 6$

   $(x + 3)(x + 2)$

6. Factor $x^2 + x - 56$

   $(x + 8)(x - 7)$

7. Factor $x^2 - x - 12$

   $(x + 3)(x - 4)$

8. Factor $x^2 + 8x - 9$

$(x + 9)(x - 1)$

9. Factor $x^2 - x - 42$

$(x - 7)(x + 6)$

10. Factor $x^2 - 4x - 32$

$(x + 4)(x - 8)$

11. Factor $x^2 - 16$

$(x + 4)(x - 4)$

12. Factor $x^2 - x - 72$

$(x - 9)(x + 8)$

13. Factor $x^2 + 5x - 24$

$(x - 3)(x + 8)$

14. Factor $x^2 - 8x + 15$

$(x - 5)(x - 3)$

15. Factor $x^2 - 12x + 36$

$(x - 6)(x - 6)$